

ABSTRACT

Magnetic bodies for reducing electromagnetic wave noises are mounted to a battery voltage supplying terminal for supplying of an electric source power for the operation of circuits to an IC chip of a regulator or an internal electric source line for connection of the terminal to the regulator chip. The magnetic bodies are attached to an IG ON terminal for inputting into the regulator chip a voltage signal caused by opening and closing of an ignition switch or to an IG ON detection line for connection of the terminal to the regulator chip. A bypass capacitor is connected to a battery voltage detecting terminal for inputting a change of battery voltage into the regulator chip, or to an internal battery voltage detection line for connection of the terminal to a switching transistor control circuit unit.